UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,797	04/02/2004	Doru Calin	29250-001068/US	9920

7590 08/10/2006	EXAMINER	
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ART UNIT	PAPER NUMBER
2617.	

DATE MAILED: 08/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/815,797	CALIN ET AL.
	Examiner	Art Unit	
	Sharad Rampuria	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>22 May 2006</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-49</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-49</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

I.   The Art Unit location of this application in the USPTO has changed. To aid in

correlating any papers for this application, all further correspondence regarding this application

should be directed to Art Unit 2617.

II.   The current office-action is in response to the amendments/remarks filed on 05/22/2006.

Accordingly, Claims 1-49 are pending for further examination as follows:

Claim Rejections - 35 USC § 102

III.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on

sale in this country, more than one year prior to the date of application for patent in the United States.

IV.   Claims 1, 3-4, 8-12, 20, 22-23, 27-29, 37, 41-42, and 47-49 are rejected under 35 U.S.C.

102 (b) as being anticipated by Lyer et al. [US 6295450].

As per claims 1, 20, 37, Lyer teaches:

        A method for setting a number of base stations that can be considered hand-off base

stations (i.e. transmitting to the remote unit, a list comprising a set of base stations from the

plurality of neighboring base stations, that are capable of supporting the current service required

by the remote unit, the list additionally not including neighboring base stations that are incapable

of supporting the current service required by the remote unit wherein the list is utilized by the

remote unit for transferring communication within the communication system; see Claim 1; lines

8-16, Abstract, Col.4; 33-40) comprising the steps of:

Measuring real-time traffic flow criteria associated with one or more base stations, (i.e.

logic unit 123 determines a list of base stations that potentially are able to service remote unit

113. In the preferred embodiment of the present invention, logic unit 123 determines a plurality

of neighboring base stations surrounding serving base station 101 (e.g., base station 102 and base

station 111); Col.4; 41-67).

Setting number of base stations that can be considered hand-off base stations from a

neighbor list of potential hand-off base stations, depending on the measured traffic flow criteria.

(e.g., account the base station capability for handoff; Col.5; 59-Col.6; 6).

As per claims 3, 22, Lyre teaches:

The method as in claims 1, 20, respectively, further comprising the step of maintaining an

initial neighbor list and generating an adaptable neighbor list of potential hand-off base stations

based on traffic flows. (Col.4; 13-32)

As per claims 4, 23, Lyre teach the method as in claims 1, 20, respectively, further

comprising setting the size of the adaptable neighbor list without requiring human intervention.

(e.g., account the base station capability for handoff; Col.5; 59-Col.6; 6).

As per claims 8, 27, Lyer teaches:

The method as in claims 1, 20, respectively, further comprises the step of forwarding the varied, adaptable neighbor list to the wireless device. (113; Fig.1, Col.4; 12-15)

As per claim 9, Lyer teaches:

The method as in claim 1 wherein the wireless device is operable to enable the hand-off. (Col.4; 27-32)

As per claim 10, Lyer teaches:

The method as in claim 1 wherein the at least one base station on the varied list is operable to enable the hand-off. (Col.4; 41-46)

As per claims 11, 28, 41, Lyer teaches:

A method for setting a number of base stations that can be considered hand-off base stations (i.e. transmitting to the remote unit, a list comprising a set of base stations from the plurality of neighboring base stations, that are capable of supporting the current service required by the remote unit, the list additionally not including neighboring base stations that are incapable of supporting the current service required by the remote unit wherein the list is utilized by the remote unit for transferring communication within the communication system; see Claim 1; lines 8-16, Abstract, Col.4; 33-40) comprising the steps of:

Measuring real time traffic flow criteria of a base station on the list; comparing the

measured flow criteria to a threshold; (e.g., account the base station capability for handoff; Col.5;

59-Col.6; 6) and

Setting number of base stations that can be considered hand-off base stations associated

with the threshold based on the results of the comparison. (e.g., account the base station

capability for handoff; Col.5; 59-Col.6; 6).

As per claims 47-49, Lyer teaches:

The method as in claims 1, 20, 37, wherein the measurement step further comprises (see

Claim 1; lines 8-16, Abstract, Col.4; 33-40) comprising:

Measuring the level of one or more pilot signals, each pilot signal associated with a

potential hand-off base station included in the neighbor list (e.g., account the base station

capability for handoff; Col.5; 59-Col.6; 6)

Claim Rejections - 35 USC § 103

V.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the

claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c)

and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

VI.   Claims 2, 5-7, 13-15, 21, 24-26, 30-32, 38-40 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Lyer et al. [US 6295450] in view of Celedon et al. [US 20030190916].

As per claims 2, 21, 38, the above combinations teaches all the particulars of the claim

except the step of varying the size of the neighbor list so that the size is set below an initial size

to prevent a return to an overload traffic condition. However, Celedon teaches in an analogous

art, that the method as in claims 1, 20, 37 respectively, further comprising the step of varying the

size of the neighbor list so that the size is set below an initial size to prevent a return to an

overload traffic condition. (Pg.2; 0024) Therefore, it would have been obvious to one of ordinary

skill in the art at the time of invention to modify Lyer including the step of varying the size of the

neighbor list so that the size is set below an initial size to prevent a return to an overload traffic

condition in order to provide a method of optimizing neighbor lists by automatically removing

and adding cells to overcome the disadvantages of the existing solutions.

As per claims 5-6, 24-25, 39-40, the above combinations teaches all the particulars of the

claim except decreasing/increasing the size of the adaptable neighbor list as the traffic flow

criteria worsens/improves. However, Celedon teaches in an analogous art, that the method as in

claims 1, 20, 37 respectively, further comprising decreasing/increasing the size of the adaptable

neighbor list as the traffic flow criteria worsens/improves. (Pg.2; 0028)

As per claims 7, 26, the above combinations teach all the particulars of the claim except

the number of base stations included in the adaptable neighbor list of potential hand-off base

stations is less than a maximum number of base stations included in an initial neighbor list.

However, Celedon teaches in an analogous art, that the method as in claims 1, 20, respectively,

wherein the number of base stations included in the adaptable neighbor list of potential hand-off

base stations is less than a maximum number of base stations included in an initial neighbor list.

(Pg.3; 0037)

As per claims 13-15, 30-32, the above combinations teach all the particulars of the claim

except a value of the threshold may change over time. However, Celedon teaches in an

analogous art, that the method as in claims 11, 28, respectively, wherein a value of the threshold

may change over time. (i.e. threshold are variable; Pg.3; 0034)

VII.   Claims 16-19, 33-36, 43-46 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Lyer et al. [US 6295450] in view of Celedon et al. [US 20030190916] and further in view

of Hellander [US 6445918].

As per claims 16, 33, 43, Lyer teaches:

A method for controlling hand-offs in a base station (i.e. transmitting to the remote unit, a list comprising a set of base stations from the plurality of neighboring base stations, that are capable of supporting the current service required by the remote unit, the list additionally not including neighboring base stations that are incapable of supporting the current service required by the remote unit wherein the list is utilized by the remote unit for transferring communication within the communication system; see Claim 1; lines 8-16, Abstract, Col.4; 33-40) comprising the steps of:

Lyer doesn't teach expressly, controlling the length of a neighboring base station list as a function of the value of the traffic flow criteria. However, Celedon teaches in an analogous art, that controlling the length of a neighboring base station list as a function of the value of the traffic flow criteria; (i.e. determining the necessity for removing or adding a particular cell in a neighbor list; Pg.2; 0022, 0024) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Lyer including controlling the length of a neighboring base station list as a function of the value of the traffic flow criteria in order to provide a method of optimizing neighbor lists by automatically removing and adding cells to overcome the disadvantages of the existing solutions.

Lyer and Celedon don't teach explicitly, measuring, in real-time, traffic flow criteria related to a wireless network. However, Hellander teaches in an analogous art, that measuring, in real-time, traffic flow criteria related to a wireless network. (i.e. In addition, in accordance with mobile-assisted handoff (MAHO) procedures, the serving RBS 16 periodically transmits a neighboring cell list via the serving RBS's digital traffic channel (DTC) (i.e., in a logical subchannel of the DTC, such as the FACCH or SACCH). The neighboring cell list includes an

identification of the neighboring cells and the digital control channels (DCCHs) that are

associated with those cells. The mobile station 10 uses the information in the neighboring cell

list to periodically measure the signal strength of DCCH signals transmitted by RBSs 16 in the

neighboring cells. The measurements can be performed during idle timeslots, i.e., timeslots

during which the mobile station neither transmits nor receives signals of the ongoing call. Thus,

the mobile station 10 is able to identify which one of the neighboring cells would provide the

best service at any given time by comparing the signal strength and/or quality of these

measurements; Col.4; 29-47) Therefore, it would have been obvious to one of ordinary skill in

the art at the time of invention to modify Lyer and Celedon including measuring, in real-time,

traffic flow criteria related to a wireless network in order to provide a method in particular to

saving dropped calls in the mobile telecommunications environment.

As per claims 17, 34, 44, Lyer teaches:

A method for use in a wireless network (i.e. transmitting to the remote unit, a list

comprising a set of base stations from the plurality of neighboring base stations, that are capable

of supporting the current service required by the remote unit, the list additionally not including

neighboring base stations that are incapable of supporting the current service required by the

remote unit wherein the list is utilized by the remote unit for transferring communication within

the communication system; see Claim 1; lines 8-16, Abstract, Col.4; 33-40) comprising the steps

of:

Lyer doesn't teach expressly, enabling a base station currently serving a call for a

wireless device to hand-off said call to another base station on its neighboring base station list.

However, Celedon teaches in an analogous art, that enabling a base station currently serving a

call for a wireless device to hand-off said call to another base station on its neighboring base

station list; (i.e. determining the necessity for removing or adding a particular cell in a neighbor

list; Pg.2; 0022, 0024) Therefore, it would have been obvious to one of ordinary skill in the art at

the time of invention to modify Lyer including enabling a base station currently serving a call for

a wireless device to hand-off said call to another base station on its neighboring base station list

in order to provide a method of optimizing neighbor lists by automatically removing and adding

cells to overcome the disadvantages of the existing solutions.

Lyer and Celedon don't teach explicitly, only when a real-time measurement of a traffic

flow criteria meets an acceptable level. However, Hellander teaches in an analogous art, that

only when a real-time measurement of a traffic flow criteria meets an acceptable level. (i.e. In

addition, in accordance with mobile-assisted handoff (MAHO) procedures, the serving RBS 16

periodically transmits a neighboring cell list via the serving RBS's digital traffic channel (DTC)

(i.e., in a logical subchannel of the DTC, such as the FACCH or SACCH). The neighboring cell

list includes an identification of the neighboring cells and the digital control channels (DCCHs)

that are associated with those cells. The mobile station 10 uses the information in the

neighboring cell list to periodically measure the signal strength of DCCH signals transmitted by

RBSs 16 in the neighboring cells. The measurements can be performed during idle timeslots,

i.e., timeslots during which the mobile station neither transmits nor receives signals of the

ongoing call. Thus, the mobile station 10 is able to identify which one of the neighboring cells

would provide the best service at any given time by comparing the signal strength and/or quality

of these measurements; Col.4; 29-47) Therefore, it would have been obvious to one of ordinary

skill in the art at the time of invention to modify Lyer and Celedon including only when a real-time measurement of a traffic flow criteria meets an acceptable level in order to provide a method in particular to saving dropped calls in the mobile telecommunications environment.

As per claims 18, 35, 45, the above combinations teach all the particulars of the claim except the step of preventing said base station from handing-off said call when said traffic flow criteria does not meet said acceptable level. However, Hellander teaches in an analogous art, that the method as in claims 17, 34, 44, respectively, further comprising the step of preventing said base station from handing-off said call when said traffic flow criteria does not meet said acceptable level. (Col.4; 48-63)

As per claims 19, 36, 46, Lyer teaches:

A method for use in a wireless network comprising the step of (i.e. transmitting to the remote unit, a list comprising a set of base stations from the plurality of neighboring base stations, that are capable of supporting the current service required by the remote unit, the list additionally not including neighboring base stations that are incapable of supporting the current service required by the remote unit wherein the list is utilized by the remote unit for transferring communication within the communication system; see Claim 1; lines 8-16, Abstract, Col.4; 33-40)

Lyer doesn't teach expressly, enabling a first base station to hand-off a call being served by said first base station to a second base station on said first base station's neighboring base station list. However, Celedon teaches in an analogous art, that enabling a first base station to

hand-off a call being served by said first base station to a second base station on said first base

station's neighboring base station list; (i.e. determining the necessity for removing or adding a

particular cell in a neighbor list; Pg.2; 0022, 0024) Therefore, it would have been obvious to one

of ordinary skill in the art at the time of invention to modify Lyer including enabling a first base

station to hand-off a call being served by said first base station to a second base station on said

first base station's neighboring base station list in order to provide a method of optimizing

neighbor lists by automatically removing and adding cells to overcome the disadvantages of the

existing solutions.

Lyer and Celedon don't teach explicitly, call is not dropped by said second base station

substantially immediately after said hand-off. However, Hellander teaches in an analogous art,

that only when a real-time measurement of traffic flow criteria indicates that said second base

station can serve said call, whereby said call is not dropped by said second base station

substantially immediately after said hand-off. (i.e. In addition, in accordance with mobile-

assisted handoff (MAHO) procedures, the serving RBS 16 periodically transmits a neighboring

cell list via the serving RBS's digital traffic channel (DTC) (i.e., in a logical subchannel of the

DTC, such as the FACCH or SACCH). The neighboring cell list includes an identification of the

neighboring cells and the digital control channels (DCCHs) that are associated with those cells.

The mobile station 10 uses the information in the neighboring cell list to periodically measure

the signal strength of DCCH signals transmitted by RBSs 16 in the neighboring cells. The

measurements can be performed during idle timeslots, i.e., timeslots during which the mobile

station neither transmits nor receives signals of the ongoing call. Thus, the mobile station 10 is

able to identify which one of the neighboring cells would provide the best service at any given

time by comparing the signal strength and/or quality of these measurements; Col.4; 29-47 and

Col.5; 14-36) Therefore, it would have been obvious to one of ordinary skill in the art at the time

of invention to modify Lyer and Celedon including call is not dropped by said second base

station substantially immediately after said hand-off in order to provide a method in particular to

saving dropped calls in the mobile telecommunications environment.

Response to Amendments & Arguments

VIII.   *Applicant's arguments filed on 5/22/2006 have been fully considered but they are not*
persuasive.

In rejoinder to Applicant's argument that Lyer doesn't teach, "the measurement based on

the traffic flow criteria;" it is noted that Lyer supports the affirmation as, the handoff is based on

the capability of the base station. (Please perceive Col.5; 59-Col.6; 6) Hence, it is believed that

Lyer still teaches the claimed limitations.

Celedon does teach the updating of neighbor-list based on threshold as determining the

necessity for removing or adding a particular cell in a neighbor list (Pg.2; 0022, 0024)

Hellander does teach the handoff based on the strength measurements criteria (see Col.4;

6-18)

With the intention of that explanation, it is believed and as enlighten above, the refutation

are sustained.

Conclusion

IX.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Sharad Rampuria whose telephone number is (571) 272-7870.

The examiner can normally be reached on M-F. (8:30-5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, George Eng can be reached on (571) 272-7495. The fax phone number for the

organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://portal.uspto.gov/external/portal/pair. Should you have questions on access to

the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-

free) or *EBC@uspto.gov.*

Sharad Rampuria
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Art Unit 2617

GEORGE ENG
SUPERVISORY PATENT EXAMINER